

A Study of Thailand Nymphulinae (Lepidoptera, Pyralidae)

(3) Two New Species of *Eristena* WARREN*

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The genus *Eristena* WARREN, 1896, consists of 8 species known from the Oriental and Australian Regions, but it has not been recorded from Thailand at all. Through the examination of the Thai pyralid collection obtained by the Expeditions to Thailand in 1981 and 1983, I have found 2 species belonging to the genus. Both the species are new to science and are described hereinafter.

The genus is characterized by the hindwing with the vein M_2 anastomosed with M_3 at the base as well as the long and ascending labial palpus, the narrow wings with the produced apices and others.

Eristena gregaria sp. nov.

External characters: Head with frons more or less flat, purely white. Vertex elevated, white, with a pair of long and erected scales posteriorly. Labial palpus strongly upturned; 1st segment sparsely with long and whitish scales below; the 2nd suffused with fuscous; the 3rd slender, whitish, acute at apex. Maxillary palpus well developed, ascending, whitish, mixed with some fuscous scales medially. Proboscis long, basally clothed with whitish scales. Antenna of male $1/2$ as long as forewing, slightly annulate, dorsally with a compact group of whitish and slightly erected scales on each flagellar segment; that of female a little longer than in male, ciliate, with dorsal scales smooth. Ocellus reduced.

Foreleg with anterior to dorsal surfaces of femur and tibia blackish, otherwise whitish. Midleg whitish; in male the femur with a row of erected, fulvous scales along ventral surface of proximal $1/3$, and with long scales emitted from its proximal portion; in female the femur smoothly scaled. Hindleg slender and whitish; in male the femur with a black and a fulvous tufts of curled scales blackish and fulvous, and the tibia with many fine, whitish scales throughout its length on dorso-posterior surface; in female the femur smoothly scaled; each inner spur about 1.3 times as long as outer one.

Thorax white on dorsal and ventral surfaces. Abdomen white; dorsal surface of 3rd segment with a transverse, blackish band at anterior portion and that of the 4th to apical segments whitish to fulvous with ochreous suffusion on anterior portion

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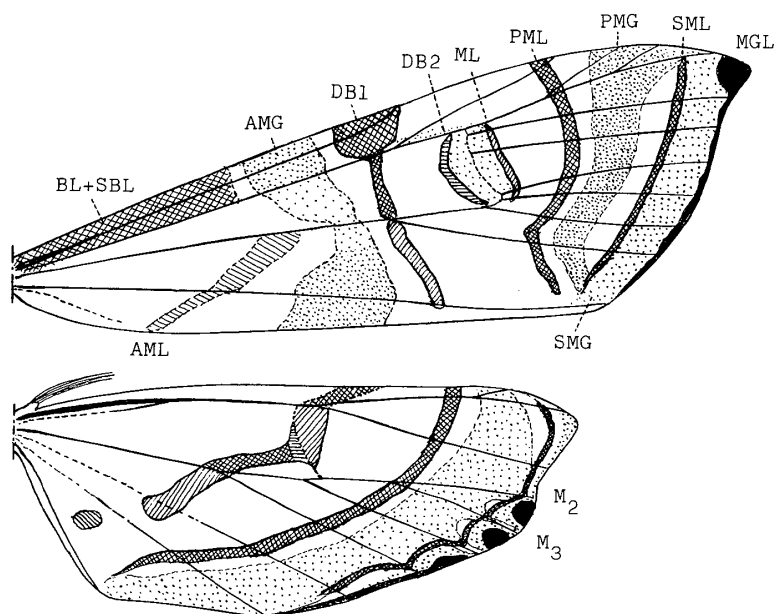


Fig. 1. Wing venation and marking of *Eristena gregaria* sp. nov.

of each segment; in male 2nd segment with a pair of tufts of specialized scales dilating ventrally.

Wing marking: Wings pale orange to dark ochreous in ground color, with narrow, fuscous to blackish lines.

Forewing with basal (BL) and subbasal line (SBL) appearing in proximal 2/5 of costal region, fuscous. Antemedial line (AML) obscure, oblique inwards behind discoidal cell. First discal bar (DB1) enlarged at ending point of vein Sc, distinctly fuscous. Discocellular lunule pale orange, proximally edged by 2nd discal bar (DB2) and distally by anterior fragment of medial line (ML). Posterior fragment of ML arisen from stalked point of CuA₂ and diverging outwards. Postmedial line (PML) starting at proximal 3/4 of costal margin, evenly curved up to cell CuA₁, then acutely turned towards tornus. Postmedial ground (PMG) narrowing to posterior margin, suffused with dark ochreous. Submarginal line (SML) narrow, parallel with termen. Submarginal ground (SMG) pale orange. Marginal line (MGL) narrow, but distinctly broadened at cell R₄. Cilia whitish.

Hindwing with base to AML white. AML represented by a spot in cell 1A+2A. DB1, DB2 and ML forming together an oblique line of which discocellular fragment is broadened. PML arisen at proximal 4/5 of costal margin, broadly and evenly curved towards near tornus. PMG broader than in forewing, pale orange. SML narrow, undulate, reaching vein CuP. SMG narrowly present. ML represented by 3 small spots in cells M₂ to CuA₁ and by a narrow line between cell CuA₂ and vein 1A+2A. Cilia as in forewing.

Male genitalia: Tegumen wider than long, with posterior margin fused with uncus dorsally. Fenestrula rather broad, separated into 2 lateral portions. Vinculum narrow, longer than height of tegumen. Saccus large, rounded in lateral view, evenly sclerotized. Uncus finger-shaped in dorsal view, 1.5 times as long as height of tegumen, with base wide and furnished with a pair of stout setae laterally. Gnathos

almost as long as uncus, with apical portion flattened and distinctly dentate dorsally. Valva elongate with base narrow; apical portion broadened, with a long process which is formed by fusion of 3 specialized setae, flat and directing anteriorly, with a trifid apex; several long setae along apical margin of valva; sacculus narrow. Phallus long and slender; coecum penis about 0.3 as long as whole length of phallus; vesica with a thorn-like long process and with a plate emitting many minute spinules. Juxta rhombiform.

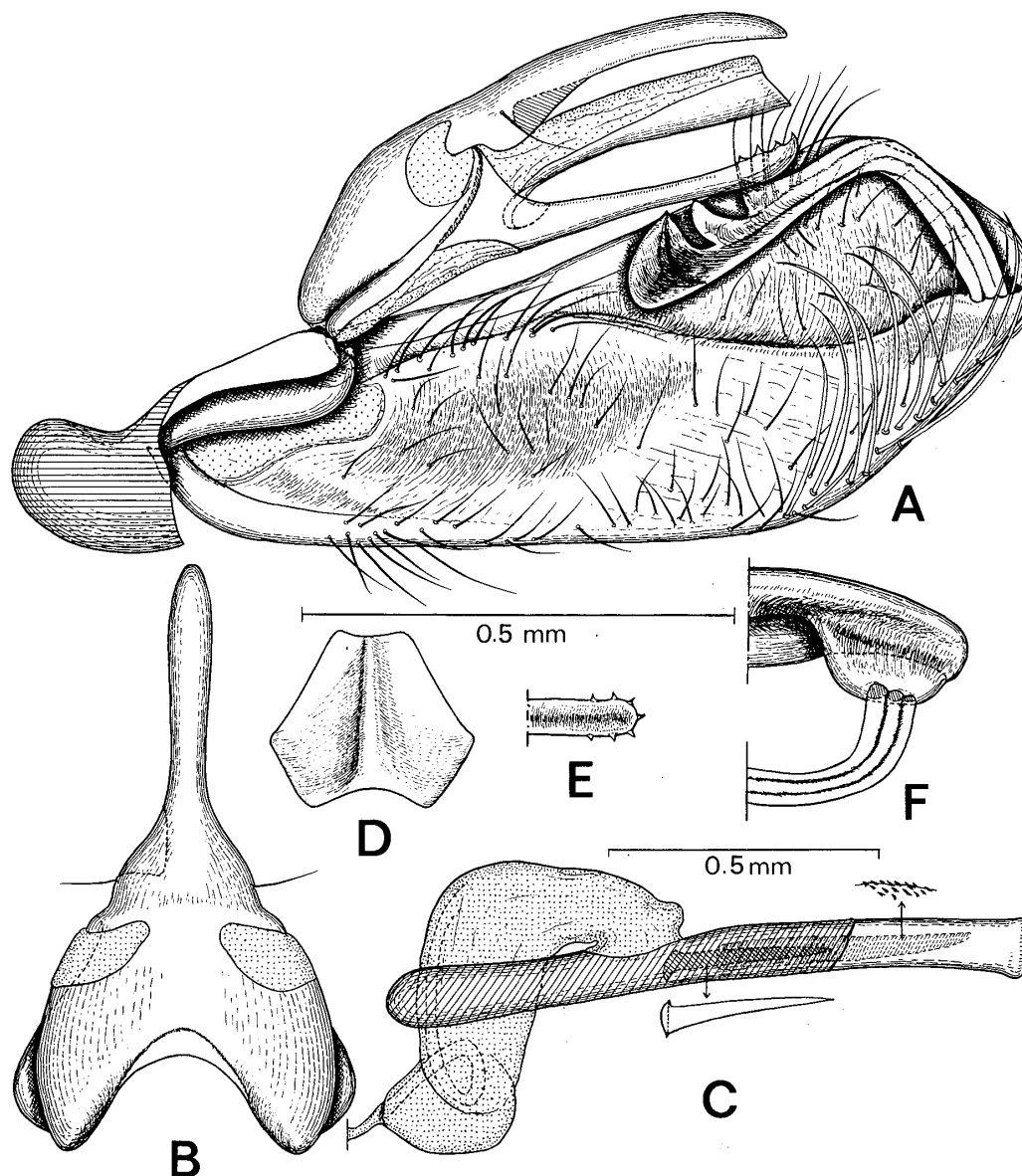


Fig. 2. Male genitalia of *Eristena gregaria* sp. nov. A: Lateral view, left valva removed. B: Tegumen and uncus, dorsal view. C: Phallus, lateral view. D: Juxta, ventral view. E: Apex of gnathos, dorsal view. F: Base of apical process on valva, dorsal view.

Female genitalia: Ostium bursae moderate in width. Ductus bursae short, with minute spinules throughout base. Bursal ring short and small, semi-circular.

Corpus bursae membranous, elongate; basal 3/4 slender, with a distinct pair of long signa which are covered with spinules arranged loosely obliquely; apical 1/4 roundly swollen. Cervix bursae undeveloped. Spermatheca large, without lagena. Eighth tergum represented by a narrow, U-shaped sclerite in dorsal view, without setae; apophysis anterioris about 0.7 as long as 7th tergum. Eighth sternum evenly membranous, also without setae. Papilla analis rather flat, with some stout setae proximally and short setae distally; apophysis posterioris a little longer than the anterioris.

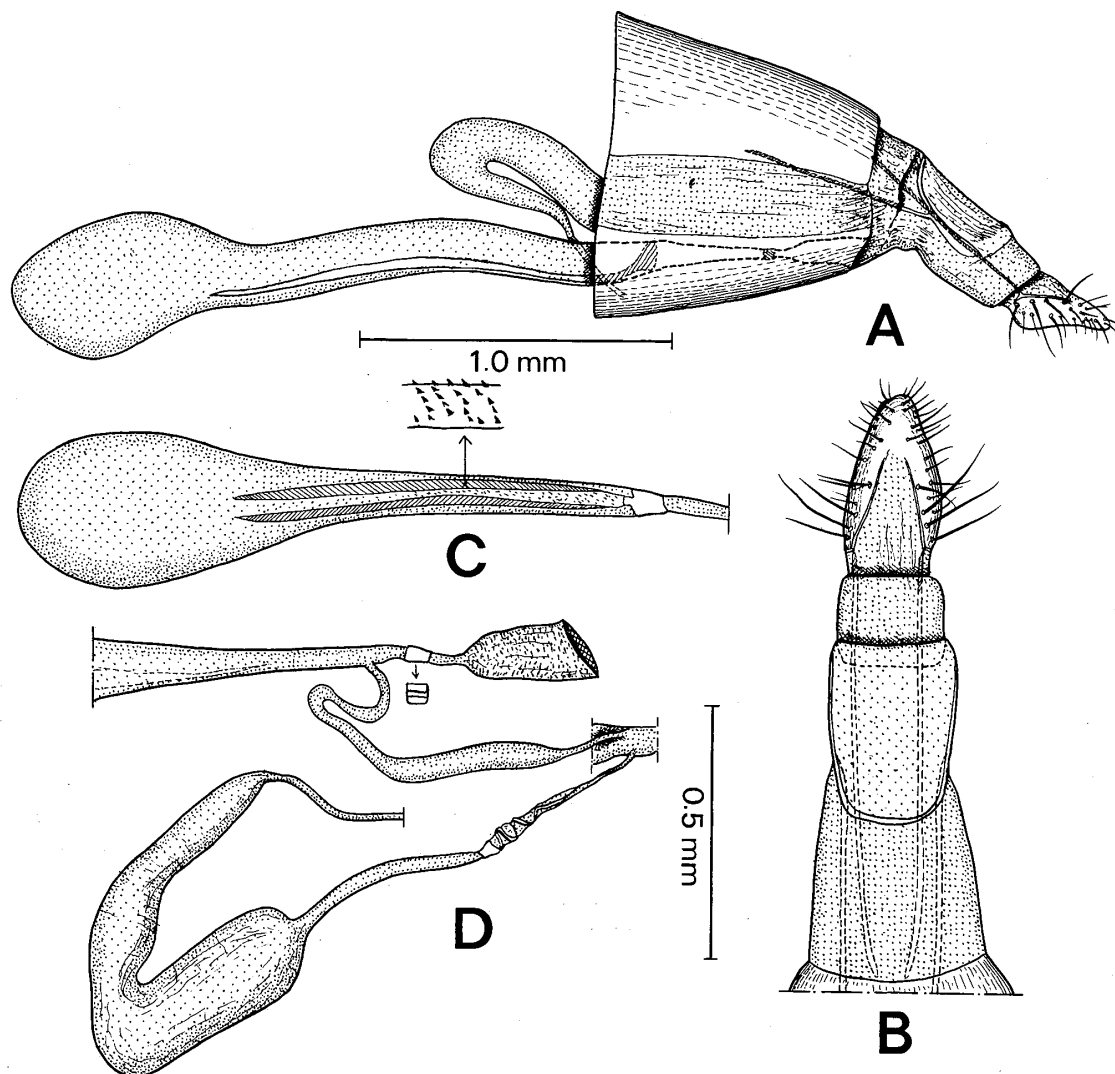


Fig. 3. Female genitalia of *Eristena gregaria* sp. nov. A: Lateral view. B: Eighth to 10th abdominal segments, dorsal view. C: Corpus bursae, ventral view. D: Base of corpus bursae and spermatheca, right lateral view.

Length of forewing: Male, 6.6–7.2 mm; female, 6.7–7.7 mm.

Holotype: Male, Fang, Chiang Mai, Thailand, 14. v. 1983 (H. KUROKO, S. MORIUTI, Y. ARITA & Y. YOSHIYASU). *Paratypes:* 8 males & 12 females. Fang, Chiang Mai, Thailand, 14–17.v. 1983.

Biological notes: In daytime a few to nearly one hundred adults of this species were found together on the underside of leaves of leguminous plants growing on a

shallow stream at Fang, Chiang Mai Province (Fig. 4). One colony examined consisted of 8 males and 5 females. As far as I know, such a gregarious habit has not been recorded in the Pyralidae. Some adults were also collected by the light trap there. The species seems to be aquatic in the immature stage.



Fig. 4. A: Habitat of *Eristena gregaria* sp. nov., an arrow indicates the position of photo B.
B: A group of adults of *Eristena gregaria* sp. nov.

Distribution: Thailand (Chiang Mai).

Remarks: The new species resembles *E. postalbalis* (HAMPSON, 1893) described from Sri Lanka, but differs from the latter as follows: Wings shorter, with apices more produced; hindwing with PML more distinct, almost parallel with termen (in *E. postalbalis* PML of hindwing curved to touch with discocellular lunule at posterior angle of discoidal cell).

***Eristena tanongchiti* sp. nov.**

The species is almost similar to *E. gregaria* sp. nov. in the wing marking. But the former differs from the latter in the following characters.

External characters: Head with proboscis a little suffused with fuscous. Midleg of male with femur lacking of a group of fulvous scales on ventral surface. Hindleg of male without any specialized scale seen in *E. gregaria* (cf. Fig. 5). Abdomen beneath lacking of a pair of tufts of scales on 2nd segment.

Wing marking: In forewing PML slightly retracted proximally at vein R_5 , while in *E. gregaria* it is not retracted at this vein; PMG broader. In hindwing PML slightly

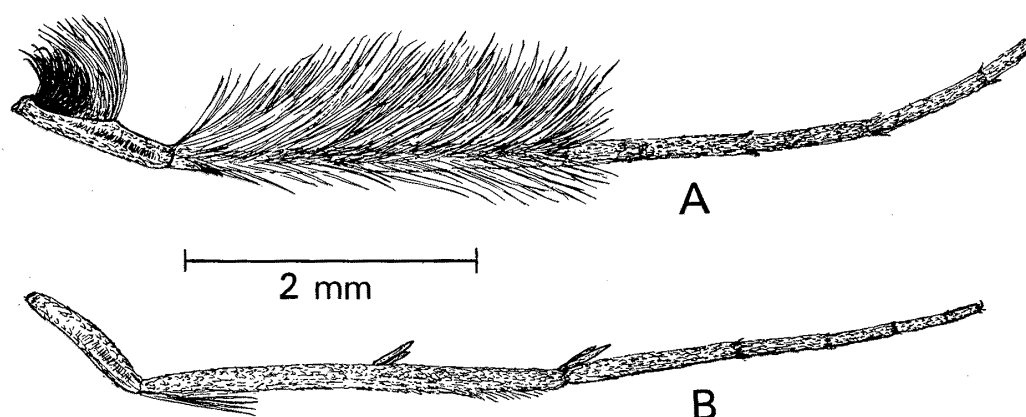


Fig. 5. Hindlegs of *Eristena* spp. A: *E. gregaria* sp. nov. B: *E. tanongchiti* sp. nov.

angulated at cells M_1 and CuP, whereas in *E. gregaria* it is evenly curved.

Male genitalia: Tegumen wider, separated from base of uncus, with an X-shaped inner ridge. Fenestrula divided into 3 portions. Saccus smaller. Uncus rather longer. Gnathos with apex strongly suppressed laterally, then broader in lateral view. Valva simpler, without a specialized process at apical portion seen in *E. gregaria*. Phallus slenderer, with coecum penis more reclinate and longer, about 0.4 times as long as whole length of phallus; vesica without a thorn-like process. Juxta longer, narrowly extended apically.

Female genitalia: Corpus bursae sparsely lined with small spines near base; signa more weakly sclerotized, with spinules rather regularly arranged obliquely.

Length of forewing: Male, 5.6 mm; female, 5.5–5.7 mm.

Holotype: Male, Kaosoi Dao, Chantaburi, Thailand, 14. viii. 1981 (H. KUROKO, S. MORIUTI, Y. ARITA & Y. YOSHIYASU). **Paratypes:** 2 females, same data as holotype.

Distribution: Thailand (Chantaburi).

Remarks: The new species is named in honour of Dr. Tanongchit WONGSIRI who kindly encouraged us to progress our Expedition in Thailand.

Type depository

The types are deposited in the Entomological Laboratory, University of Ôsaka Prefecture except for some paratypes, which are in the Division of Entomology and Zoology, Department of Agriculture, Thailand.

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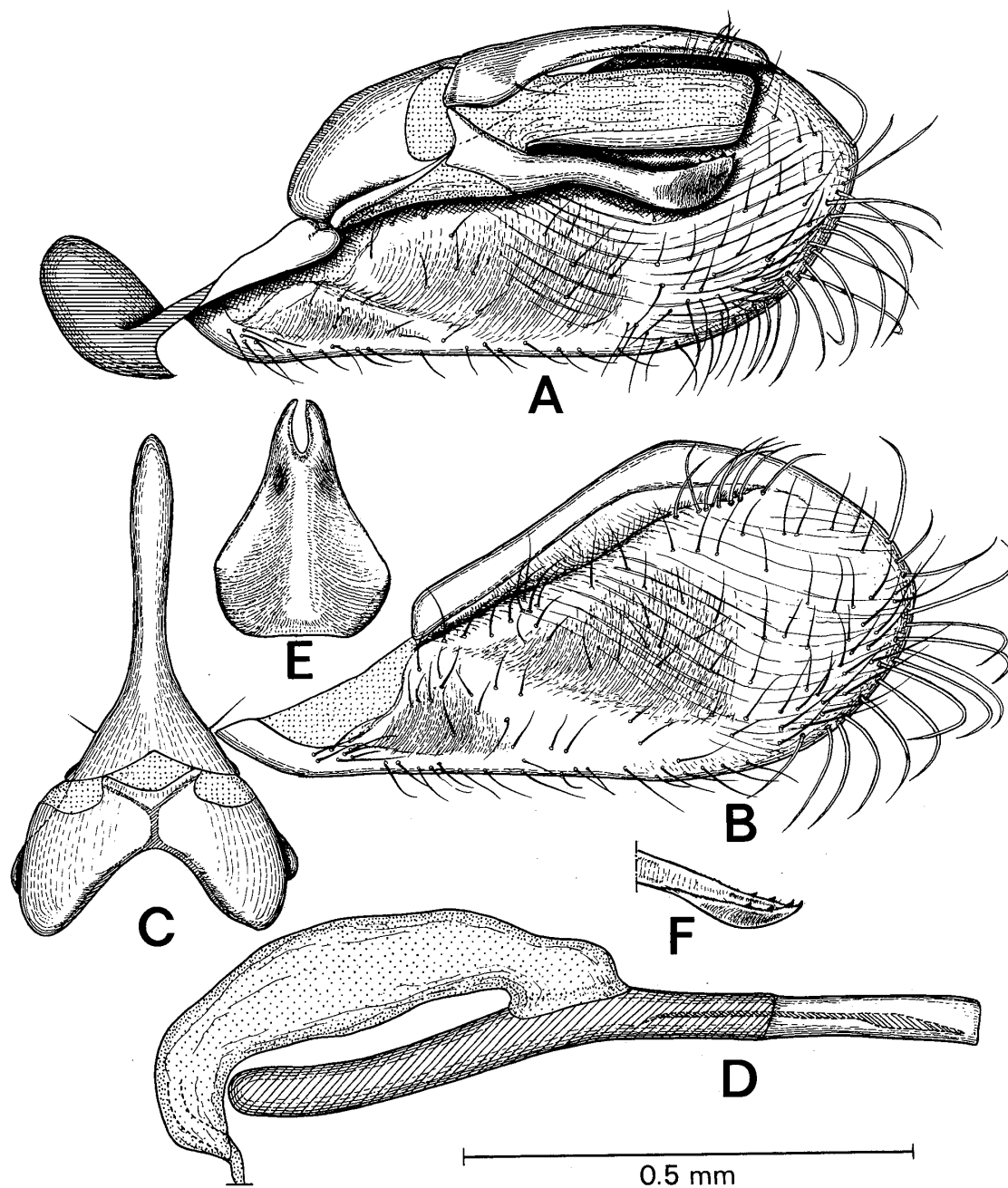


Fig. 6. Male genitalia of *Eristena tanongchiti* sp. nov. A: Lateral view, left valva removed. B: Right valva, inner view. C: Tegumen and uncus, dorsal view. D: Phallus, lateral view. E: Juxta, ventral view. F: Apex of gnathos, dorso-lateral view.

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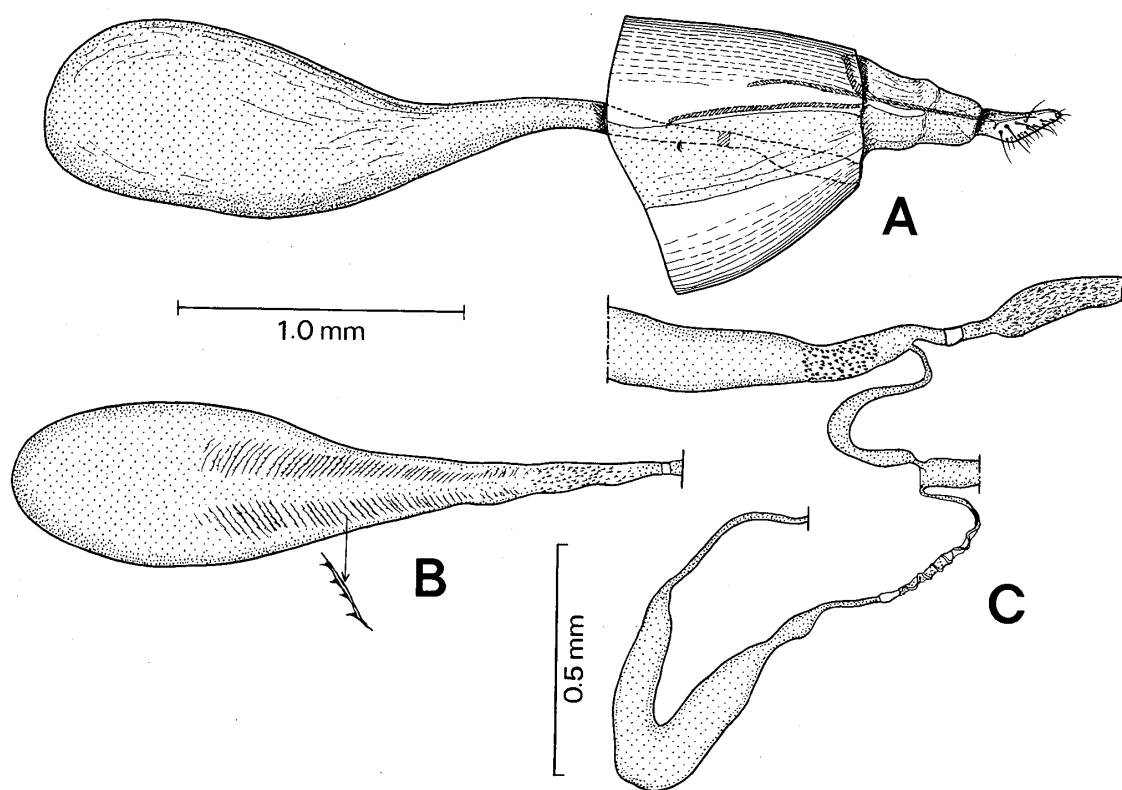


Fig. 7. Female genitalia of *Eristena tanongchiti* sp. nov. A: Lateral view. B: Corpus bursae, ventral view. C: Base of corpus bursae and spermatheca, right lateral view.

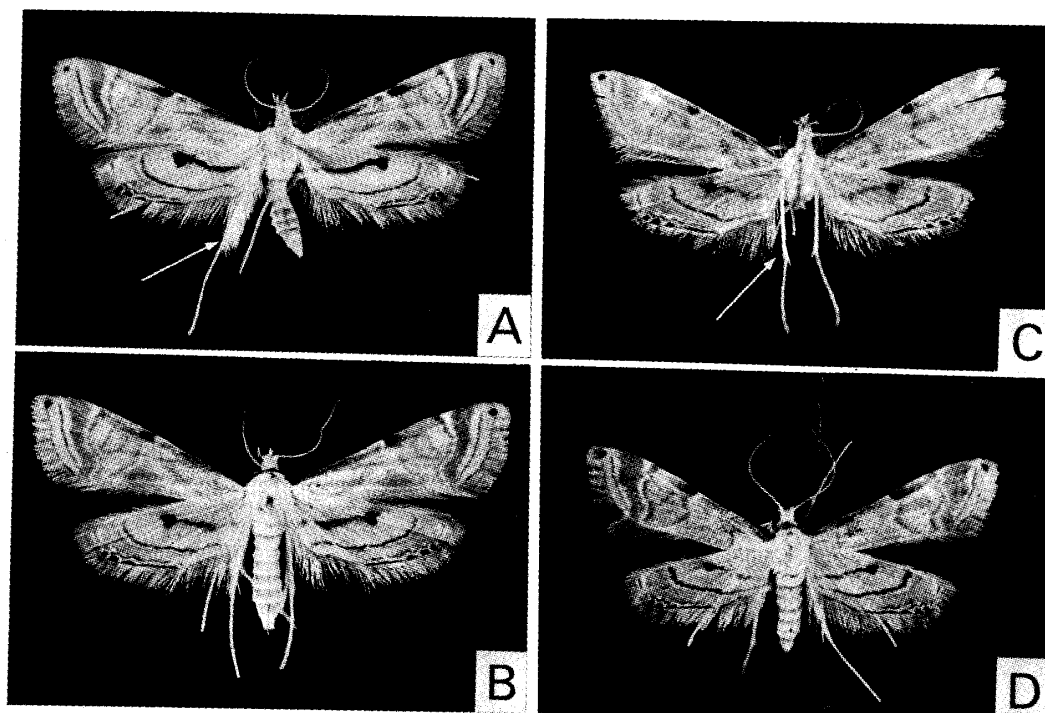


Fig. 8. A: *Eristena gregaria* sp. nov., male (holotype), an arrow indicates the hindleg. B: Ditto, female. C: *Eristena tanongchiti* sp. nov., male (holotype), an arrow as in A. D: Ditto, female.

摘 要

タイ産ミズメイガ亜科(鱗翅目:メイガ科)の研究 (3) *Eristena* 属の2新種 (吉安 裕)

ミズメイガ亜科 *Eristena* 属は東洋区からオーストラリア区にかけて分布し、これまで8種が記載されているが、タイから未知であった。本論文で同国からの本属2新種の記載をした。

新種 *E. gregaria* は、タイ北部 Chiang Mai 県に分布し、スリランカから記載された *E. postalbalis* (HAMPSON, 1893) に近縁であるが、成虫の翅形および後翅の斑紋から容易に区別される。成虫は昼間、川ぞいのマメ科植物の葉裏に集団でいるところが観察された。集団は大きいものでおよそ100匹に達する。採集された1集団は雄8匹に対し雌5匹であった。筆者の知るかぎり、このようなメイガ科成虫の集団は、ほかに知られていない。

ほかの1新種 *E. tanongchiti* は、タイ南部 Chantaburi 県に分布していて、上記の新種 *E. gregaria* に非常に似ている。しかし、雄の中・後脚に前種にみられる鱗毛の束を欠くことや、雄交尾器の valva の状態などによって区別される。